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UNIVERSITY OF ILLINOIS, Agricultural Experiment Station.

CHAMPAIGN, AUGUST, 1894.

BULLETIN NO. 34.

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EXPERIMENTS WITH WHEAT, 1893-94.
EXPERIMENTS WITH OATS, 1894.

EXPERIMENTS WITH WHEAT, 1893-94.

Results of experiments tried with wheat on the Station grounds in the season 1893-94 are here given, with reference to like experiments in previous years.

These experiments are reported:

No. 65. Quantity of Seed.

No. 116. Test of Varieties.

TEMPERATURE AND RAINFALL, JULY, 1893, TO JUNE, 1894.

	July 1893, to June 1894.		Average for 10 years.	
	Rain- fall.	Temper- ature.	Rain- fall.	Temper- ature.
July.....	.59	76.4	2.73	77.5
August.....	.06	71.1	3.45	74.6
September.....	3.62	66.5	3.27	66.5
October.....	1.14	53.3	3.27	54.6
November.....	2.98	37.3	2.76	40.6
December.....	1.09	30	2.47	27.1
January.....	1.95	29.4	1.54	22.8
February.....	1.33	24.7	3.42	29.7
March.....	2.41	43.5	2.61	39
April.....	1.80	51.4	3.19	52.4
May.....	3.30	59	4.45	64.6
June.....	1.78	73.4	5.04	71
Total.....	22.05	.....	38.20	.....

Experiment No. 116, Wheat, Test of Varieties.

The land used in this experiment was fairly level prairie soil, about one-half lying nearly six feet lower than the rest. The slope from the one to the other level gave to several of the plats a southeastern exposure. The others were nearly level. The land had not had exactly the same treatment in former years in the application of manure, but no differences in the crop could be traced to this cause. In 1891-92 this land had been in wheat. It was sown to wheat in the fall of 1892, but the crop was so badly injured by the winter that oats were sown in the spring of 1893. The land was plowed, harrowed, and rolled Sept. 24th to Sept. 26th. The wheat was drilled Sept 27th to 29th. The ground had been remarkably dry, but two inches of rain having fallen from July 1st to Sept. 23d, on which day there was a rainfall of 1.79 inches.

Seventy-five plats each 1 by 8 rods, or 1-20 of an acre, were sown. Seventy-two of these plats were in 8 rows of 9 plats each. The remaining three plats were placed across the end of the tract. Spaces of two feet were left between the sides and ends of the plats. The drill used was a five-hoe, one-horse drill, set to sow at the rate of six pecks per acre; but owing to differences in size and shape of the kernels of the different varieties the quantity actually sown varied from 6 to $8\frac{2}{3}$ pecks per acre.

Sixty varieties, or samples under different names, were sown. There were four duplicate plats of one variety, six plats of mixtures, and six plats sown at different rates of seeding. The wheat made but very moderate growth during the autumn. A few plats with southeastern exposure were evidently injured during the winter or early spring. The wheat ripened from June 27th to July 3d, was harvested June 30th to July 3d, three or four plats being not quite so mature as the others at the latter date. The wheat on all the plats stood well. The average yields from the 75 plats was at the rate of 35.9 bu. per acre, the range being from 17.4 to 48.4 bu. Twenty-six plats gave yields of over 40 bu. each, and nine under 25 bu. per acre. The average yield of the sixty varieties was 35.6 bu. per acre. These are the yields of the plats as separately threshed. The "scattering" wheat from the 75 plats was sufficient to add nearly 2 bu. per acre to the average yield, but it was impossible to apportion this correctly to the different plats. The average weight of the wheat per bushel, as threshed and without special cleaning, was 61.6 pounds per bu., the range being from 58.5 to 63.5 pounds. The wheat from six plats weighed less than 60 lb. per bu.

Thirty-seven plats of bearded wheat averaged 35, and 30 plats of smooth averaged 36.8 bu. Thirteen plats of wheat classed as white averaged 34.7, and 56 classed as brown or red averaged 35.8 bu.

The average yield of straw was at the rate of 3,680 lb., varying from 1,435 to 5,375 lb. On each of 31 plats the yield of straw was at

the rate of more than 4,000 and on 12 less than 3,000 lb. per acre. The average number of stubs on one square foot was 51, the range being from 34 to 65. The average height was 44 inches, the range being from 38 to 50 inches. In 1892 the number of stubs on a square foot varied from 34 to 77. The height in that year varied from 47 to 60 inches. In that year wheat harvest was unusually late, the cuttings being made from July 9th to 14th.

The average weight of 100 kernels of wheat in 1894 was 3.35 grams, the range being from 2.40 to 4.04. In 1892 the range of weight of 100 kernels was from 1.74 to 3.74 grams. In tests made at the Iowa Experiment Station, apparently with wheats of the crop of 1893, the number of kernels per bu. varied from, approximately, 490,000 to 1,184,000, with an average of 770,000. The average number of kernels per bushel of the wheat grown at this Station this year was a little over 800,000; the extremes being about 600,000 and 1,130,000.

With the exception of a few plats the yields were unusually good. It is to be noted that the year ending with June, 1894, was one of unusually light rainfall, the total being but 22.5 inches, and of this but 18.27 inches fell after the wheat was sown. In no one month was there a great rainfall, 3.30 inches in May being the greatest.

In no case should the merit of a variety otherwise apparently valuable be determined from its yield in any single year. In the trials here reported the variation in yields of different plats evidently depended much more on slight differences in exposure and elevation than on differences in variety. The greatest difference in the average yield of the plats in the 8 rows of 9 plats each was 4 bu. per acre, while the difference in yield of the cross rows of 8 plats was 14 bu. per acre. Four plats of one variety were sown in different parts of the tract of land. The yields of these were at the rates of 34.3, 35.2, 42.4, and 46.3 bu. per acre. The smallest yields were from plats with a southeastern exposure; the largest from level plats on slightly lower ground, with presumably somewhat greater natural fertility.

Through the kindness of Director Thorne, of the Ohio Station, at Wooster, of Professor Latta, of the Indiana Station, at LaFayette, and Director Armsby, of the Pennsylvania Station, at State College, we are enabled to give the yields of a number of varieties grown at each or all of these Stations. The comparatively low yields at the Ohio Station are explained as due to excessive drouth at time of sowing, which prevented the growth of much of the wheat, and also to treatment of the seed with a too strong solution of copper sulphate designed to destroy stinking smut with which the wheat was affected.

At this Station in 1894 the varieties giving the largest yields were New Michigan amber, 48.4; Yellow gypsy, 46.5; Crate, 45.5; Rock velvet, 45; Royal Australian, 44.7; Currell's prolific, 43.7; Diehl Mediterranean, 43.7; Missouri blue stem, 43.6; but it would not be safe to make this fact conclusive evidence of the superiority of these varieties

over others tested. The wheat crop of 1893 was a failure. In 1892 the best yielding varieties were the following: Hindustan, Diehl Mediterranean, Dietz, Tuscan Island, Lehigh, Crate, Tasmania red. Currell's prolific also gave a large yield, as did Nigger, which gave a yield of 40 bushels in 1894. In trials for several successive years, Valley stood first at the Ohio Station, second in Pennsylvania, and third in Indiana.

At the Ohio and Indiana Stations Velvet chaff (Penquite's) has been grown as a standard variety. This is probably the same variety as that grown at this Station under the name Rock velvet.

The variety tests for two years, at this Station, as well as those made in the other states named, do not sustain the claims made for wonderful productiveness of varieties recently introduced. Some of these seem to be identical with well known varieties.

In 1892 the yields of each of four plats sown with a mixture of several varieties was somewhat greater than the average of the varieties composing this mixture. Seed from these mixtures was sown in fall of 1893. In but one case was the yield greater than the average yield of all the plats, and in but one was it greater than that of the plats adjoining.

The Station has no seed wheat for sale.

SECOND CROP GROWN FROM MIXTURES, 1893-4.

	Wt. 100 kernels, grams.	Lb. per bu.	Yield per Acre.	
			Straw, lb.	Grain, bu.
<i>Components of Mixture A.</i>				
*Velvet chaff.....				
Lehigh.....	3.56	60	3555	30.7
Hindustan.....	3.64	63	3955	39.4
Tasmania red.....	3.54	62	3990	40.2
Nigger.....	3.19	60.5	4985	40.3
Diehl Mediterranean.....	3.66	62.5	4680	43.7
Tuscan Island.....	4.01	62.5	3775	38.7
Miami Valley.....	3.38	63.5	3240	30.7
*Longberry Wabash.....				
Bearded Monarch.....	3.36	61.5	3715	39.4
*Fairfield.....				
Average of above.....	3.54	61.8	3987	37.9
Yield from mixture <i>a</i> (av. 2 plats).....	3.31	62	3020	26.6
<i>Components of Mixture B.</i>				
Wyandot red.....	3.44	62	3440	37.3
Poole.....	3.39	62.5	3325	41.2
Witter.....	3.11	62.5	4180	41
*Sheriff.....				
*Hicks.....				
*Fultz.....				
Currell's prolific.....	3.23	62	3915	43.7
Oregon.....	2.97	62.5	4315	41.4
Longberry.....	3.33	61.5	3565	37.9
Early ripe.....	3.29	61	4330	33.1
Average of above.....	3.25	62	3867	39.4
Yield from mixture <i>b</i>	3.20	60.5	4240	39.3
<i>Components of Mixture C.</i>				
*Russian red.....				
Improved rice.....	3.48	62	3425	32.9
Extra early Oakley.....	3.39	62.5	3765	37.2
Crate.....	3.87	62	4550	45.5
Average of above.....	3.58	62	3913	38.5
Yield from mixture <i>c</i>	3.29	61	3065	29.6
<i>Components of Mixture D.</i>				
*Deitz.....				
Lebanon.....	4.04	62	4020	40
Theiss.....	3.10	62.5	3095	34.7
Average of above.....	3.57	62	3557	37.3
Yield from mixture <i>d</i> (av. 2 plats).....	3.40	62.5	3447	37

*Not grown in 1894.

*Not grown in 1894.

WHEAT, VARIETY TEST, 1893-94.

Plat No.	Name of variety.	Source of seed.	Per cent germinated in apparatus.	When Drilled.	Lb. and oz. sown per plat	Ripe	Harvested.	Height.	Bearded or smooth.	Color of kernel.	Color of straw.	Color of chaff	No. of stubs on 1 sq. foot	Weight of 100 kernels, g.	Condition when cut.	Lb. per bu.	Yield per acre.	
																	Lb. straw.	Bu. grain.
1	Big English.....	Ill. Exp't Station, '92.	77	27	4-9	29	30	43	S	R	R	l b	57	3.12	leaning	62	3795	34.9
2	Golden cross.....	"	87	"	4-15	29	30	44	S	R	R	b	47	3.90	erect	61.5	4125	40.6
3	Longberry.....	"	91	"	5-1	27	30	42	S	R	R	w	47	3.33	"	61.5	3565	37.9
4	Mealy.....	"	80	"	4-9	28	30	41	S	R	R	w	54	3.17	"	61.5	3855	41.4
5	Wyandot red.....	"	78	"	5-3	28	30	42	S	R	R	w	53	3.44	"	62	3440	37.3
6	Miami Valley.....	"	90	"	5-2	30	30	43	B	R	R	w	53	3.38	"	63.5	3240	37.3
7	Valley.....	Ohio Exp't Station, '93.	90	28	"	29	30	46	B	R	R	w	45	3.37	leaning	62.5	3240	29.5
8	German emperor.....	Ill. Exp't Station, '92.	91	"	4-14	30	30	42	S	R	R	b	55	3.29	erect	61	3230	33.1
9	Early ripe.....	"	91	"	4-14	30	30	46	B	R	R	b	58	3.28	leaning	61	4330	33.1
10	Tuscan Island.....	"	76	27	5-3	29	30	40	B	R	R	w	61	4.01	leaning	62.5	3775	36.7
11	Ohio early ripe.....	"	87	"	5-9	30	30	44	S	R	R	w	55	3.39	erect	62	3530	37.8
12	Hybrid Mediterranean.....	"	88	"	4-15	29	30	43	S	R	R	b	48	3.78	"	62	3530	37.8
13	Extra early Oakley.....	"	81	"	5-3	20	30	45	S	R	R	w	61	3.39	"	62.5	3705	37.2
14	Poole.....	"	75	"	5-14	29	30	42	S	R	R	b	46	3.39	"	62.5	3355	41.2
15	Improved rice.....	"	80	28	5-5	28	30	44	S	R	R	w	52	3.48	"	62	3425	32.9
16	Rudy.....	"	83	"	4-12	30	30	46	B	R	R	b	48	3.21	leaning	60.5	2860	25
17	Mixture a.....	"	61	"	4-13	30	30	46	B	R	R	b	57	2.99	erect	62	4095	29.7
18	Martin's amber.....	"	88	27	4-15	30	30	48	S	R	R	w	63	3.41	leaning	62	4320	37.3
19	Mixture d.....	"	81	"	5-3	28	2	42	S	R	R	b	44	3.20	erect	60	2880	27
20	New monarch.....	"	82	"	5-4	28	2	42	S	R	R	b	43	3.40	"	61.5	2640	31
21	Germán emperor.....	"	80	28	4-15	29	2	41	S	R	R	w	56	2.85	"	60.5	3535	32.7
22	Saskatchewan.....	"	80	"	5-4	28	2	43	S	R	R	b	47	4.04	"	61	3765	37.6
23	Dietz longberry.....	"	90	"	4-12	29	2	44	S	R	R	w	65	2.97	"	62.5	4315	41.4
24	Oregon.....	"	75	"	4-15	29	2	46	S	R	R	b	53	3.56	"	60	3555	39.7
25	Lehigh.....	Ohio Exp't Station, '93.	81	"	6-5	July 3	3	47	B	R	R	w	55	3.08	"	62.5	4815	39.8
26	Ontario wonder.....	"	81	"	5-13	3	3	46	S	R	R	w	62	3.20	"	62.5	4815	39.8
27	Valley.....	"	90	"	"	3	3	49	B	R	R	w	43	3.20	leaning	59	4385	44.4
28	Early white leader.....	"	73	"	5-6	29	2	48	S	R	R	w	43	3.20	erect	59	4385	44.4
29	Roberts.....	"	69	"	6-2	29	2	40	B	R	R	b	34	3.68	"	61.5	2370	24.8
30	Valley.....	"	80	"	6-6	28	2	44	B	R	R	w	34	3.37	"	63	3005	33.2
31	Yellow gypsy.....	"	80	"	6-6	28	2	44	B	R	R	w	55	3.30	"	62	4530	40.5
32	Pickaway.....	"	74	"	6-7	30	2	44	B	R	R	b	49	3.90	"	61.5	4505	41.9
33	Witter.....	"	96	"	6-4	July 1	2	45	S	R	R	b	52	3.47	"	62.5	4180	41
34	Hickman.....	"	86	"	6-4	30	2	47	S	R	R	w	67	3.17	leaning	61.5	4665	38.6
35	Nigger.....	"	93	"	5-1	29	2	44	B	R	R	w	61	3.19	erect	60.5	4985	40.3
36	New Michigan amber.....	"	88	"	6-8	29	2	47	B	R	R	w	65	3.77	"	61.5	4855	48.4
37	Geneva.....	"	84	"	6-7	28	2	42	B	R	R	w	54	3.30	"	63.5	3710	35.5
38	Thiess.....	"	90	"	6-2	29	2	41	B	R	R	w	53	3.10	"	62.5	3995	34.7
39	Bailey.....	"	86	"	5-7	29	2	42	B	R	R	b	37	2.64	"	58.5	2245	24.6

40 Jones' square head.....	"	85	"	5-9	July 1	" 2	40	S	W	R	l b	w	45	3.10	"	59	4035	38.7
41 Hindustan.....	"	88	"	6-8	30	" 2	45	B	R	l b	b	w	50	3.64	"	63	3953	39.4
42 American bronze.....	"	97	"	5-12	July 1	" 2	46	S	R	l b	w	w	39	3.47	"	63	4475	41.7
43 Landreth.....	"	80	"	5-11	" 2	" 2	48	B	R	l b	w	w	55	3.13	leaning	59	5375	34.8
44 Rock velvet.....	"	86	"	6-8	28	July 2	44	B	R	l b	b	b	52	3.36	erect	63	4740	45
45 Crate.....	"	86	"	6-8	July 2	" 2	44	B	R	l b	b	b	57	3.87	leaning	62	4550	45.5
46 Buckeye.....	"	81	"	5-11	30	30	41	B	W	l b	w	w	35	2.84	erect	61	2780	28.3
47 Johnson.....	"	62	"	5-9	July 2	30	41	B	W	l b	w	w	34	2.40	"	60	2025	22.9
48 Beal.....	"	87	"	5-8	30	30	38	B	W	l b	w	w	34	2.40	"	59	1435	17.4
49 Bearded monarch.....	"	67	"	6	29	30	42	B	R	l b	b	b	51	3.36	"	61.5	3715	39.4
50 Missouri blue stem.....	"	85	"	6-4	July 1	30	46	B	R	l b	b	b	54	3.41	"	62	4105	43.6
51 Millers' prolific.....	"	65	"	5-11	30	30	39	S	R	l b	w	w	55	3.38	leaning	62	3590	38.2
52 Silver chaff.....	"	92	"	6-1	July 2	30	47	B	R	l b	b	b	54	3.41	erect	62.5	5140	41.3
53 Diehl Mediterranean.....	"	86	"	6-11	" 3	30	48	B	R	l b	b	b	61	3.66	leaning	62	4680	43.7
54 Tasmanian red.....	"	87	"	6-3	29	30	44	B	W	l b	w	w	36	2.96	erect	61	2575	25.1
55 Early red clawson.....	"	75	"	5-5	30	30	39	B	R	l b	b	b	34	3.58	"	62.5	1780	27
56 Eulaster.....	"	90	"	6-3	29	30	39	B	R	l b	b	b	34	3.58	"	62.5	1735	20.1
57 Golden prolific.....	"	88	"	5-9	29	30	42	S	W	l b	w	w	53	3.27	"	60.5	4155	43.1
58 Yuba.....	"	88	"	6-6	30	30	44	B	R	l b	w	w	53	3.42	"	62.5	4440	46.3
59 Valley.....	"	88	"	6-6	30	30	44	B	R	l b	b	b	47	3.96	"	61	3345	39.2
60 Currell's prolific.....	"	71	"	6-3	29	30	42	S	R	l b	w	w	56	3.23	"	62	3915	43.7
61 Willits.....	"	71	"	4-14	July 1	29	40	S	R	l b	w	w	38	2.91	"	60	2510	23.2
62 Mixture a.....	"	85	"	5-12	30	29	42	B	R	l b	w	w	39	3.17	"	62.5	1945	23.6
63 Sibley's new golden.....	"	85	"	6-3	29	29	43	B	R	l b	b	b	45	3.22	"	60	2170	19.2
64 Lebanon.....	"	85	"	6-8	29	29	45	B	R	l b	w	w	50	4.04	"	62	4020	40
65 Royal Australian.....	"	75	"	5-14	July 1	30	45	S	W	l b	b	b	54	3.13	leaning	59.5	4815	44.7
66 Mixture b.....	"	88	"	4-8	30	30	41	S	R	l b	b	b	56	3.20	erect	60.5	4240	39.3
67 Mixture d.....	"	88	"	4-12	30	30	41	S	R	l b	b	b	55	3.38	.....	62.5	3045	32.2
73 Mixture c.....	"	86	"	5-13	30	30	43	.....	R	.....	.....	.....	58	3.48	.....	62.5	3135	29.8
74 Badger.....	"	86	"	4-12	30	30	43	.....	R	.....	.....	.....	55	3.29	.....	61	3065	29.6
75 Mixture c.....	"	86	"	4-12	30	30	46	.....	R	.....	.....	.....	55	3.29	.....	61	3065	29.6

* l b light brown, r b reddish brown.

† w white, b brown.

YIELDS OF VARIETIES OF WHEAT NAMED AT THE EXPERIMENT STATIONS OF ILLINOIS,
INDIANA, OHIO, AND PENNSYLVANIA—SEASON OF 1893-94.

Variety.	Yields.			
	Illinois.	Indiana.	Ohio.	Pennsylvania
American bronze.....	41.7	....	19.2	26.4
Badger.....	29.8	....	16.8	....
Bailey.....	24.6	....	....	....
Beal.....	17.4	36.7	....	....
Bearded monarch.....	39.4	....	22.2	....
Big English.....	34.9	....	....	....
Buckeye.....	28.3	....	....	....
Canada wonder.....	....	41.3	....	34
Canadian hybrid.....	....	38.3	21	....
Crate.....	45.5	....	12.5	....
Currell's prolific.....	43.7	....	16.2	28.5
Dale.....	....	....	....	28
Deitz.....	....	....	16.9	31.8
Democrat.....	25.1	....	15	28.8
Diehl Mediterranean.....	43.7	....	18.5	28.1
Dietz longberry.....	37.6	30.9	....	30.7
Earliest of all.....	....	....	....	25.1
Early Genesee giant.....	....	40.3	19.6	....
Early red Clawson.....	27	....	14	....
Early ripe.....	33.1	32.2	19.7	....
Early white leader.....	37	....	18.8	....
Egyptian.....	....	....	14.7	30.6
Extra early Oakley.....	37.2	....	21.4	32.1
Fairfield.....	....	....	18.2	....
Finley.....	....	....	....	30.9
Fulcaster.....	20.1	40.3	14.5	33.5
Fultz.....	....	39.7	24.1	31.3
Fultz blue stem.....	....	....	12.6	....
Geneva.....	35.5	....	28.2	....
German emperor.....	32.5	....	....	32.3
Gold dust.....	....	30.5	....	....
Golden cross.....	40.6	....	....	....
Golden prolific.....	43.1	....	19.4	....
Gypsy.....	....	....	18.5	....
Harvest queen.....	....	40.7	....	....
Hickman.....	38.6	37.2	19.8	....
Hindustan.....	39.4	....	8.8	....
Hybrid Mediteranean.....	37.8	....	....	....
Improved rice.....	32.9	....	....	25.8
Johnson.....	22.9	35.3	....	....
Jones' American bronze.....	....	41.7	....	....
Jones' square head.....	38.7	....	11.8	29.5
Jones' winter fife.....	....	43.5	15.8	29.9
Kentucky giant.....	....	37.3	27.2	....
Landreth.....	34.8	....	....	....
Lebanon.....	40	....	14.2	28.8
Lehigh.....	30.7	....	10	....
Longberry.....	37.9	29.1	....	....
Longberry red Wabash.....	....	34.1	10	....
Martin's amber.....	37.3	....	13.8	....
McGhees' red.....	....	....	....	28.7
Mealy.....	41.4	....	33.1	28.1
Mediterranean.....	....	....	15.2	30.1
Miami red.....	....	....	12.4	....
Miami Valley.....	30.7	....	....	28.7
Miller's prolific.....	38.2	....	20.7	22.2
Missouri blue stem.....	43.6	....	14.6	....
New Columbia.....	....	....	32.2	....
New Michigan amber.....	48.4	35.7	17.2	....

YIELDS OF VARIETIES OF WHEAT NAMED AT THE EXPERIMENT STATIONS OF ILLINOIS,
INDIANA, OHIO, AND PENNSYLVANIA—SEASON OF 1893-94—*Continued.*

Variety.	Yields.			
	Illinois.	Indiana.	Ohio.	Pennsylvania
New monarch.....	27	37.2	22.2	....
Nigger.....	40.3	37	29.2	31
Ohio blue stem.....	....	33.2	....	....
Ohio early ripe.....	34.2	....	....	....
Ontario wonder.....	39.8	....	....	36.6
Oregon.....	41.4	....	....	29.4
Pickaway.....	41.9	....	....	....
Poole.....	41.2	....	29.2	31.9
Post.....	....	....	20	....
Pride of Illinois.....	....	33.7	....	....
Raub's black prolific.....	....	35.7	....	28.4
Red Clawson.....	....	36.5	....	....
Red Fultz.....	....	....	21.7	28.6
Red Russian.....	....	....	25.6	....
Red wonder.....	....	37.5	....	....
Reliable.....	....	....	....	38
Reliable Minn.....	....	42.9	....	....
Roberts.....	24.8	28.1	....	....
Rochester red.....	....	34.9	14.5	....
Rock velvet.....	45	....	15	....
Roumania.....	....	....	....	29.1
Royal Australian.....	44.7	....	9.9	31.9
Rudy.....	25	45.7	13.7	35.3
Saskatchewan.....	32.7	....	....	....
Sheriff.....	....	....	....	25.3
Sibley's new golden.....	19.2	....	11.5	29.4
Silver chaff.....	41.3	....	14.2	....
Surprise.....	....	....	22.2	....
Tasmania red.....	40.2	....	13.2	29.1
Theiss.....	34.7	....	15.2	31.9
Tuscan Island.....	38.7	....	22.5	30.4
Valley.....	38.3	39.1	13.7	32.4
Velvet chaff.....	....	37	17.4	28.2
Weedlen.....	....	36	....	....
Wicks.....	....	....	....	28.3
Willits.....	23.2	36.7	....	....
Wisconsin triumph.....	....	....	23.6	....
Witter.....	41	....	....	29.3
World's Fair.....	....	34.7	30.7	....
Wyandot red.....	37.3	41.1	20.2	29.8
Yellow gypsy.....	46.5	....	18.2	....
Yuba.....	39.2	....	....	....

AVERAGE YIELD OF VARIETIES OF WHEAT FOR A SERIES OF YEARS AT THE EXPERIMENT STATIONS IN ILLINOIS, INDIANA, OHIO, AND PENNSYLVANIA.

Rank.	Name of variety.	Illinois.		Indiana.		Ohio.		Penn.		Av. of all	
		Years grown.	Bu. per acre	Years grown.	Bu. per acre.	Years grown.	Bu. per acre.	Years grown.	Bu. per acre.	No. of trials.	Bu. per acre.
<i>Seven or more trials.</i>											
1	Poole	2	36.7	...	...	10	33.9	1	31.9	13	34.2
2	Valley	1	38.3	5	31.1	10	35.2	5	31.3	21	33.4
3	Royal Australian	1	44.7	...	...	10	31.2	1	31.9	12	32.4
4	Tasmania red	2	36.8	...	...	10	31.7	1	29.1	13	32.3
5	Nigger	2	36	2	29.1	10	34.1	5	27.1	19	31.9
6	Diehl Mediterranean	1	43.7	...	...	10	32.9	5	27.4	16	31.9
7	Ontario wonder	2	32.4	...	...	...	...	5	30.9	7	31.3
8	Martin's amber	2	32.3	...	...	10	30.6	...	...	12	30.9
9	Wyandot red	2	33.7	...	...	7	30.1	5	30.5	14	30.8
10	Tuscan island	2	36.4	...	...	7	31.6	5	26.2	14	30.4
11	Missouri blue stem	1	43.6	...	...	7	29	...	...	8	30.4
12	Democrat	2	27.7	...	...	10	31.9	5	28.2	17	30.3
13	New Michigan amber	1	48.4	11	29.9	1	17.2	...	...	13	30.3
14	Currell's prolific	2	37	...	...	1	16.2	5	30.5	8	30.3
15	Theiss	2	30.5	...	...	10	29.5	5	29.1	17	29.5
16	Mealy	2	33.5	...	...	1	33.1	5	27.1	8	29.4
17	Dietz longberry red	2	33.8	9	27.1	...	...	5	30.8	16	29.1
18	Rudy	2	26.8	3	33.4	1	13.7	1	35.3	7	29
19	German emperor	2	31	...	...	...	...	5	28	7	28.9
20	Sibley's new golden	1	19.2	...	...	7	28.8	5	27.9	13	27.7
21	Fulcaster	2	23.9	8	28	1	14.5	5	31.1	16	27.6
22	New monarch	2	24.5	8	28.9	1	22.2	...	...	11	27.5
23	Extra early Oakley	2	33.2	...	...	7	25.3	5	28.1	14	27.4
24	Improved rice	2	31.6	...	...	...	...	5	23.7	7	26
25	Miller's prolific	2	27.2	...	...	7	25.7	5	22.2	14	24.7
<i>Three to five trials.</i>											
1	Oregon	2	35.1	...	...	...	...	1	29.4	3	33.2
2	Witter	2	34.1	...	...	...	...	1	29.3	3	32.5
3	Yellow gypsy	1	46.5	...	...	...	...	1	18.2	2	32.3
4	Hickman	1	38.6	1	37.2	1	19.8	...	...	3	31.9
5	Geneva	1	35.5	...	...	1	28.2	...	...	2	31.8
6	Longberry	2	34	3	29.1	...	...	...	...	5	31.1
7	Crate	2	39.6	...	...	1	12.5	...	...	3	30.6
8	Bearded monarch	2	34.3	...	...	1	22.2	...	...	3	30.3
9	Rock velvet	1	45	...	...	1	15	...	...	3	30
10	Miami Valley	2	29.7	...	...	...	...	1	28.7	3	29.4
11	Lebanon	2	35.3	...	...	1	14.2	1	28.8	4	28.4
12	Hindustan	2	37.4	...	...	1	8.8	...	...	3	27.9
13	Early white leader	1	37	...	...	1	18.8	...	...	2	27.9
14	Willits	1	23.2	3	28.9	...	...	...	...	4	27.5
15	Johnson	1	22.9	3	27.3	...	...	...	...	4	26.2
16	Early ripe	2	30.5	2	24.1	1	19.7	...	...	5	25.8
17	Lehigh	2	32.4	...	...	1	10	...	...	3	24.9
18	Beal	1	17.4	3	27.2	...	...	...	...	4	24.7

Experiment No. 65, Wheat, Quantity of Seed.

Six plats were sown with different quantities of seed. The drill being set to sow from 3 to 9 pecks per acre, but it is probable that in each case a somewhat greater quantity was sown. The largest yield was from plats sown at the rate of four pecks per acre, second from sowing six, and third from sowing eight pecks per acre. The plat sown at the rate of seven pecks per acre was injured by rabbits. In trials for five years slightly the largest yields have come from sowing eight pecks per acre, but there was a difference of only one bushel per acre whether four, six, or eight pecks were sown. Under favorable conditions the thinner sown wheat has a larger number of stalks per stool.

YIELDS FROM DIFFERENT AMOUNTS OF SEED, 1893-94.

Plat.	Amount sown	Wt. 100 kernels, grams	Stubs on 1 sq. ft.	Lb. per bu.	Yield per acre.	
					Lb. straw	Grain, bu.
623	pk. per acre	3.12	55	62.5	3515	39.2
634	" "	2.93	57	63	4000	44.7
616	" "	3.23	56	62	3915	43.7
727	" "	2.96	56	63	3545	34.2
718	" "	3.05	60	62.5	4025	42.2
709	" "	3.21	54	62	4290	40.5

YIELD OF WHEAT FROM DIFFERENT AMOUNTS OF SEED, 1888-89 to 1893-94.

Seed per acre—pecks	Yield per acre.											
	1888-9		1889-90		1890-91		1891-92		1893-94		Average	
	Straw lb.	Grain bu.	Straw lb.	Grain bu.	Straw lb.	Grain bu.	Straw lb.	Grain bu.	Straw lb.	Grain bu.	Straw lb.	Grain bu.
3	....	....	2215	24.6	4140	22	....	....	3515	39.2	3290	28.6
4	4560	36.2	2620	28.2	4400	23.7	2575	24.7	4000	44.7	3631	31.5
5	4700	38.3	2740	26.3	4080	22.2	3357	29	....	....	3719	28.9
6	4750	36.3	2200	24.5	4980	28.3	3045	25.9	3915	43.7	3778	31.7
7	3545	34.2
8	4540	35.4	2740	28.3	5100	26.8	2670	27.8	4025	42.2	3815	32.1
9	4290	40.5

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EXPERIMENTS WITH OATS, 1894.

Results of experiments with oats on the Station grounds in the season of 1894 are here reported. Of these *No. 84, Oats, Test of Varieties*, is the only one reported in detail.

The land on which the experiments were tried was fertile prairie soil, which had been in corn in 1892 and 1893. The stalks of the last crop were removed and the land was plowed about 5 in. deep in the late fall of 1893. The plats, 48 in number, were 2 by 4 rods or 1-20 of an acre, with a space of 2 feet between. The first part of March was unusually favorable for farm work. The land was disked once with a cut-away disk or harrow, and plats 1 to 24 were seeded broadcast at the rate of $2\frac{1}{2}$ bu. per acre March 16th and 17th. March 24th plats 25 to 32 were sown. All the plats were disked once after sowing, then harrowed, clover and timothy seed was sown, and then the plats were harrowed again. In all cases the seeding was at the rate of $2\frac{1}{2}$ bu. of 32 lb. per acre, except with plats 28 and 32. On plat 28, $3\frac{3}{4}$ lbs., and on plat 32, 2 lb. were sown. March 25th, 26th, and 27th the temperature fell to a minimum of 12, 10, and 11 degrees. The severe freezing injured all the oats to some extent, but to a much greater extent on some plats than on others. April 14th plats 1 to 24, inclusive, which had been sown March 16th and 17th, were re-sown with the same varieties and like amount as before. The oats on plats 25 to 32 did not seem to be much injured, and were allowed to remain.

The oats ripened and were harvested from July 13th to 20th. Those on four plats were considerably lodged; on one all were lodged.

Fifteen varieties were sown on duplicate plats. Twelve of these varieties had been selected from a considerably larger number tested in previous years. The duplicate plats in all cases were at considerable distance from each other, with the design of equalizing any differences in the soil. Except for slight variations in elevation and exposure the soil of all the plats was apparently more than usually uniform, but the yields from plats of the same variety differed in a marked degree in a number of cases. Two varieties were tested on single plats. Duplicate plats were sown with each of three mixtures of varieties possessing like characteristics; also duplicate plats with oats grown on plats sown with the same mixtures in 1892. Two plats were rolled after being sown. Two plats were drilled, the quantity of seed being less than that used in sowing broadcast, owing to failure of the drill to sow the desired quantity.

The average yield of the 48 plats was at the rate of 62.3 bu., the range being from 40.8 bu. to 75 bu. per acre. Five plats gave yields of less than 50, and 7 of over 70 bu. each per acre. The average yield of the 32 plats in the variety test was 63 bu. per acre. The average weight per bushel from all the plats was 32.6 lb., range being from 28.5 to 37.7. These weights were taken as threshed and without special cleaning. The average weight of 100 berries was 2.27 grams, the range being from 1.71 to 2.70 grams. This gives the average number of kernels per bushel approximately as 640,000, the range being from 537,000 to 850,000.

The average weight of straw was 3,300 lb. per acre, the range being from 2,560 to 4,545. The average number of stubs on one square foot was 44, the range being from 33 to 61. The average height of the straw was 37 in., the range being from 31 to 42.

As in former years the different varieties were found to vary materially in the per cent of the husk surrounding the kernel of the berries. The average per cent of the kernel was 72.1, the range being from 66.8 to 76.6. This variation of about 10 per cent is less than has been found in former years.

The best yielding varieties were: Texas rust proof, 74 bu. per acre; Lincoln, 68.7 bu.; Texas red, 68.2 bu.; New Dakota gray, 67.3 bu.; Calgary gray, 67.6 bu.; New red rust proof, 67.1 bu.; American banner, 64.4 bu.; Green Mountain, 64.4 bu.; Pringle's progress, 64.3 bu.

In trials for five years the best yielding varieties have stood in following order: Pringle's progress, Texas rust proof, New Dakota gray, New red rust proof, American banner, Improved American. Calgary gray has been grown two seasons. It ranked third among 59 varieties in 1892.

A small package of oats, unnamed, sent by Thomas Weaver, Nashville, Tenn., apparently gave a good yield, and ripened ten days or more in advance of any other variety.

Each of the mixtures of varieties gave a slightly larger yield than the average yield of the varieties used in making the mixtures, while the yield of the plats sown with seed, the product of mixtures in 1892, was slightly lower than the average yield of the varieties making the mixture.

Rolling the plats after the seed was sown did not seem to affect the yield. The two plats drilled instead of sown broadcast gave yields much below the average, but this may have been because a less quantity of seed was used.

This is the first year since the Station was established in which early sown oats have been injured by frost. Several half acre plats, not reported upon, which were sown previous to the severe frost, gave yields of from 50 to 60 bu. per acre.

SYNOPSIS OF VARIETIES.

Oats.	Early....	{ Panicles open..	White	{ Long..	{ Pringle's progress....64.3 Early Dakota.....56.9 Green mountain ....64.4 Lincoln.....68.7		{ 63.6	
					{ Short.. Superior Scotch....47.1			
		{	Black.	{ Long..	{ Black Russian.....62 Calgary gray .....67.6		{ 64.8	
					{ Dun.. Long.. { Texas rust proof....74 New red rust proof..67.1 Texas red.....68.2			{ 69.8
	Medium .	{ Panicles open..	White	{ Long..	{ Improved American..62.1 American banner....64.4		{ 63.2	
					{ Short.. Australian .....54.4			
	Late	{	{ Panicles open..	White	{ Short..	{ Japan .....60.3		{
						{ New Dakota gray....67.3 Black prolific.....64.3 Mammoth cluster....58.3		

COMPARATIVE YIELD OF VARIETIES OF OATS, 1894.

Plat No.	Name of Variety.	Bu.	Comparative Yield.
2 & 14	Texas rust proof...	74	
28	Lincoln	68.7	
3 & 15	Texas red.....	68.2	
7 & 19	Calgary gray.....	67.6	
4 & 16	New Dakota gray..	67.3	
1 & 13	New red rust proof.	67.1	
12 & 24	American banner...	64.4	
27 & 31	Green mountain..	64.4	
8 & 20	Pringle's progress..	64.3	
6 & 18	Black prolific	64.3	
11 & 23	Improved American	62.1	
5 & 17	Black Russian....	62	
9 & 21	Japan.....	60.3	
32	Mammoth cluster..	58.3	
10 & 22	Early Dakota.....	56.9	
26 & 30	Australian	54.4	
25 & 29	Superior Scotch...	47.1	

The yields of oats in 1894 were the largest that have been grown at the Station since the year 1891, when the average yields from 55 plats was 66.6 bu., with a maximum of 85 bu. per acre. It is of interest to note that in each of these years both the winter and the growing season for the oats crop had a rainfall below the average, and were without excessive rain in any one month.

The experiments in previous years as to the quantity of seed to be sown, the time and manner of sowing, and time of harvesting, gave results of such uniformity that it was not thought necessary to re-

RESULTS OF VARIETY TEST OF OATS, 1894.

Plat No.	Variety.	Source of seed.	Per cent germinated.	Yield per acre.		Lb. straw per bu. grain.	Lb. per bu.	Height inches	When ripe.	When cut.	Stubs per square foot.	Per cent. standing when cut.	Wt. 100 berries, grams		Per c't. kernel in b'r's.		
				Grain bu.	Av. of 2 plats								In seed.	In crop.	In seed.	In crop.	
1	New red rust proof.	Station, crop of '92.	98	66.1	67.1	2945	28.5	37	13	13	42	75	2.08	2.44	74.1	71.5	
13	"	" " " " " " " "	96	68.1	74.0	2740	30.75	31	13	13	44	100	2.70	2.17	74.3	69.9	
2	Texas rust proof.	" " " " " " " "	96	73.1	74	3240	32	35	13	13	49	100	2.53	2.41	72.7	75.9	
14	"	" " " " " " " "	92	75	74	2720	34	34	14	16	42	100	2.60	2.63	75.5	74.6	
3	Texas red.	" " " " " " " "	90	68.7	68.2	3320	33	36	13	13	46	100	2.51	2.41	72.7	74	
15	"	" " " " " " " "	90	67.8	67.3	2750	32.75	35	13	13	41	100	2.51	2.17	72.7	73.3	
4	New Dakota gray.	" " " " " " " "	96	73.1	67.3	4540	28.5	36	20	19	46	100	2.15	2.00	65.3	65.6	
16	"	" " " " " " " "	93	61.6	67.3	3710	33	37	20	19	37	100	2.43	2.38	69.4	69.5	
5	Black Russian.	" " " " " " " "	90	62.5	62	2560	33	33	14	16	50	40	2.07	2.27	74.4	76.6	
17	"	" " " " " " " "	95	61.4	62	3635	31.25	35	19	19	43	100	2.22	2.30	71.4	73	
6	Black prolific.	" " " " " " " "	93	66.7	64.3	4545	32	31	20	19	55	100	1.93	1.90	67.0	71.4	
18	"	" " " " " " " "	95	66.7	64.3	3935	29	39	20	19	40	100	2.24	2.27	69.5	70.5	
7	Calgary gray	" " " " " " " "	83	62	67.6	3065	32.5	34	13	13	61	100	2.08	1.90	77.4	76.6	
19	"	" " " " " " " "	92	73.6	67.6	2950	31.75	36	13	16	49	90	2.08	1.90	77.4	76.6	
8	Pringle's progress.	" " " " " " " "	90	62.7	64.3	3175	31.75	38	14	13	41	90	2.34	1.84	67.9	68.2	
20	"	" " " " " " " "	65	69	64.3	2850	30	36	13	13	41	80	2.34	2.30	67.9	66.8	
9	Japan.	" " " " " " " "	90	64.5	60.3	4540	34.25	40	19	19	48	95	2.49	2.11	71.9	68.9	
21	"	" " " " " " " "	90	50.1	60.3	4125	35.25	39	19	19	37	100	2.49	2.35	71.9	72.7	
10	Early Dakota.	" " " " " " " "	90	63	56.9	3425	31.75	36	15	16	51	95	2.37	1.96	74.5	75.3	
22	"	" " " " " " " "	99	60.8	56.9	3575	32.5	39	14	16	55	95	2.37	1.71	74.5	71.4	
11	Imp. American.	" " " " " " " "	100	62	62.1	3215	33.75	38	16	16	46	100	2.32	2.67	69.6	74.8	
23	"	" " " " " " " "	95	62.3	62.1	3365	32.75	40	15	16	36	90	2.54	2.70	72.3	73.8	
12	American banner.	" " " " " " " "	92	70.2	64.4	2995	32	39	16	16	53	100	2.57	2.63	72.7	70.9	
24	"	" " " " " " " "	92	58.6	64.4	3885	32.25	42	15	16	43	75	2.57	2.41	72.7	70.8	
25	Superior Scotch	J A Everitt, Indianapolis, Ind.	94	52.2	47.1	2810	35	37	13	13	41	25	2.53	71
26	"	" " " " " " " "	94	42	47.1	3095	37.75	39	13	13	45	0	2.22	68.1
26	Australian.	Frank Ford & Son, Ravenna, O.	91	59.1	54.4	3390	34.25	39	15	16	35	85	2.13	71.8
30	"	" " " " " " " "	91	49.8	54.4	3765	35.75	38	17	16	37	25	2.17	70.8
27	Green Mountain.	" " " " " " " "	90	66.6	64.4	2970	30.75	42	13	13	36	100	2.47	72.9
31	"	" " " " " " " "	90	62.2	64.4	3250	36	39	15	16	42	100	2.63	74.3
28	Lincoln.	A. W. Livingston's Sons, Columbus, O.	90	68.7	68.7	3100	33	40	15	16	36	100	2.41	74
32	Mammoth Cluster.	Plant Seed Co., St. Louis, Mo.	96	58.3	4015	34	42	19	19	33	100	2.41	72.2

YIELDS OF MIXTURES, 1894.

Pringle's progress.....	64.3
Early Dakota.....	56.9
Average.....	60.6
Mixture <i>a</i>	55.8
Black Russian.....	62.
New Dakota gray.....	67.3
Average.....	64.6
Mixture <i>c</i>	62.9
New Dakota gray.....	67.3
Improved American.....	62.1
Average.....	64.7
Mixture <i>d</i>	60.6
Texas red.....	68.2
New red rust proof.....	67.1
Average.....	67.6
Mixture.....	68.4
Black Russian.....	62.
Calgary gray.....	67.6
Average.....	64.8
Mixture.....	70.8
Early Dakota.....	56.9
Pringle's progress.....	64.3
Average.....	60.6
Mixture.....	61.2
Mixtures <i>a</i> , <i>c</i> , and <i>d</i> made in 1892.	

YIELD OF GRAIN PER ACRE OF ELEVEN VARIETIES TESTED FOUR YEARS.

	1890		1891		1892		1894		Average.
	Rank	Bu.	Rank	Bu.	Rank	Bu.	Rank	Bu.	
Texas rust proof....	1	55.9	6	72.2	9	41.2	1	74	60.8
Pringle's progress....	4	48.1	2	79	2	51.3	6	64.3	60.7
New Dakota gray....	8	39.4	1	85	7	41.7	3	67.3	58.3
New red rust proof..	5	45	8	64.6	1	56.3	4	67.1	58.2
Texas red.....	2	49.7	11	60.8	8	41.7	2	68.2	55.1
Black Russian.....	6	40.6	7	70.8	6	44.2	9	62	54.4
American banner....	10	30.6	5	73.4	3	48	5	64.4	54.1
Black prolific.....	9	35.9	9	68.7	5	46.6	7	64.3	53.9
Japan.....	7	40.3	3	75.8	10	39.1	10	60.3	53.1
Improved American..	11	25.5	4	75.2	4	47.6	8	62.1	52.6
Early Dakota.....	3	48.8	10	63.7	11	38.2	11	56.9	51.9
Calgary gray.....						50.4		67.6	

peat them. The general conclusions which have been drawn from these experiments may be restated almost as they were given in the bulletin reporting the experiments for 1893, as follows:

The results of the experiments with oats tried at this Station for the last seven years suggest that on the fertile soil of central eastern Illinois we may expect in a series of years an average yield an acre of a little over 50 bushels of grain and about one and one-half tons of straw, the oats weighing rather less than more than the standard weight of 32 lb.

a bushel; that it is not advisable to plow the land in the spring if the crop follows corn, the use of the disk harrow giving better results; that the seed should be sown near the last of March or first of April; that if sown broadcast it is better to sow from two and one-half to three and one-half bushels per acre, covering the seed not more than one or two inches deep; that there is no one variety greatly superior to all others, so that it is not wise to put full credence in the claims often made for new varieties; that some varieties are, however, distinctly better than some others; that neither color nor plumpness of kernels, nor weight per bushel, nor the form of the head certainly determines value; but that, generally, varieties with long, slender, comparatively light kernels have the smallest percentage of husk and, probably, the greatest feeding value; that early maturing varieties are to be preferred to those ripening later; that it is desirable to harvest the crop before it has fully ripened; and that binding and shocking the sheaves at once is an advantage rather than a disadvantage, if the grain is in fit condition for cutting.

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This Station has no seed oats for sale.

METEOROLOGICAL RECORDS.

A summary of the observation on rainfall and temperature, made at this Station for the six years ending August 31, 1894, is herewith published. This period is too short to make it safe to accept the results as fairly representing the usual climatic conditions of this region. Except for the year 1892, the rainfall has been below what has been accepted as average for central Illinois. The rainfall for the 12 months from July, 1893, to July, 1894, was remarkably small for this region—~~only 21.13 inches, and for the following 12 months to July 1, 1894, it was but 22.12 inches, making the total for the two years ending June 30, 1894, but 43.25 inches.~~ It should be borne in mind that the record of rainfall for a month or even a year may vary considerably at points not far apart, because of the occurrence or failure of local rains. In a series of years these differences would be equalized. The total rainfall for a year or a month does not necessarily indicate the adaptation of the season for crops, as excessively heavy rains may make the total seem satisfactory, while there may have been lack of moisture between these.

The highest temperature noted is 99 deg., in August of 1891 and 1894; the lowest—21, in January, 1894. The mean monthly temperature, during the crop growing season, has rarely varied greatly from the average for the six years, June, 1889, and September, 1891, being most striking exceptions.

RAINFALL IN INCHES AT THE ILLINOIS AGRICULTURAL EXPERIMENT STATION FOR
THE SIX YEARS FROM SEPT. 1, 1888, TO AUG. 31, 1894.

	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
1888	.....	.....	.....	.....	.....	.....	.....	.....	1.29	1.38	2.81	4.72	*10.20
1889	1.48	2.08	1.61	.61	5.52	6.81	5.81	.60	2.74	1.42	4.38	1.82	34.88
1890	5.26	1.87	2.70	4.11	3.56	3.80	2.83	1.93	1.19	2.35	1.63	.05	31.28
1891	.99	2.60	3.55	3.54	.89	2.08	1.41	2.86	.41	1.29	5.58	1.53	26.73
1892	.79	2.64	2.59	6.45	7.86	5.36	2.50	2.45	.93	.93	4.95	1.62	39.05
1893	1.05	4.48	3.20	7.68	4.83	1.55	.59	.06	3.62	1.14	2.98	1.09	32.27
1894	1.95	1.32	2.41	1.86	3.32	1.78	1.08	2.06	.....	.....	.....	.....	†15.79
Total	11.52	15.00	16.06	24.25	25.98	21.38	14.22	9.96	10.18	8.51	22.33	10.83	190.20
Ave..	1.92	2.50	2.67	4.04	4.33	3.56	2.37	1.66	1.69	1.42	3.72	1.80	31.70

* Four months. † Eight months.

METEOROLOGICAL RECORDS.

TEMPERATURE, DEGREES, FAHRENHEIT.—SEPT. 1, 1888, TO AUG. 31, 1894.

	January.			February.			March.			April.		
	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.
1888	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889	29.28	57	-2	23.36	53	-7.5	39.92	72	18	51.9	75	25
1890	33.5	66	-5	34.66	68	7	33.35	61	2	52.32	81	29
1891	30.26	57	6	30.45	61	-9	32.55	65	-1	52.78	81	22
1892	19.2	57	-15	33	55	*	36.1	69	*	48.6	70.5	26
1893	14.8	48	*	25.8	51	*	37.8	76	*	49.3	75	30
1894	29.4	64	-21	24.7	53	-5	43.5	77	10	51.4	85	25
Whole period	26.07	66	*-21	28.66	68	*-9	37.20	77	*-1	51.05	85	22

	May.			June.			July.			August.		
	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.
1888	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
1889	59.2	91	28	65.5	88	40	72.7	90.5	50	69.2	89	29.5
1890	58.27	87	33	74.56	96	47	73.02	97.5	45	68.74	96	44.5
1891	58.4	91	30	71.9	93	49	70.12	93	42	70.21	99	40
1892	57.9	82	36	70.6	94	51	73.3	96.5	46	71.5	94	47
1893	57.4	84	37	70.5	93	53	76.4	98	48	71.1	96	37
1894	59.6	89	32	73.4	97	34	73.8	98	47	72.3	99	41
Whole period	58.46	91	28	71.08	97	34	73.22	98	42	70.50	99	29.5

	September.			October.			November.			December.		
	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.	Mean.	Max.	Min.
1888	59.9	89	31	47.2	75	23	39.6	75	13	31.57	57	12
1889	61.32	87.5	32	47.26	82	25	36.82	62	4	42.71	66	15
1890	60.46	89	33	52.07	76	27	42.62	68	21	30.91	58	8
1891	69.2	96	41	51.3	88.5	27	35.69	67	2	37	60	11
1892	63.9	87	42	53.6	88.5	19	34.8	64	7	27.7	60	-7
1893	66.5	97	31	53.3	84	18	37.3	75	6	30	63	-6
1894	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Whole period	63.54	97	31	50.78	88.5	18	37.80	75	2	33.31	66	-7

* The record is incomplete.

G. E. MORROW, A. M., *Agriculturist*.

All communications intended for the Station should be addressed, not to any person, but to the

AGRICULTURAL EXPERIMENT STATION, CHAMPAIGN, ILLINOIS.

The bulletins of the Experiment Station will be sent free of all charges to persons engaged in farming who may request that they be sent.

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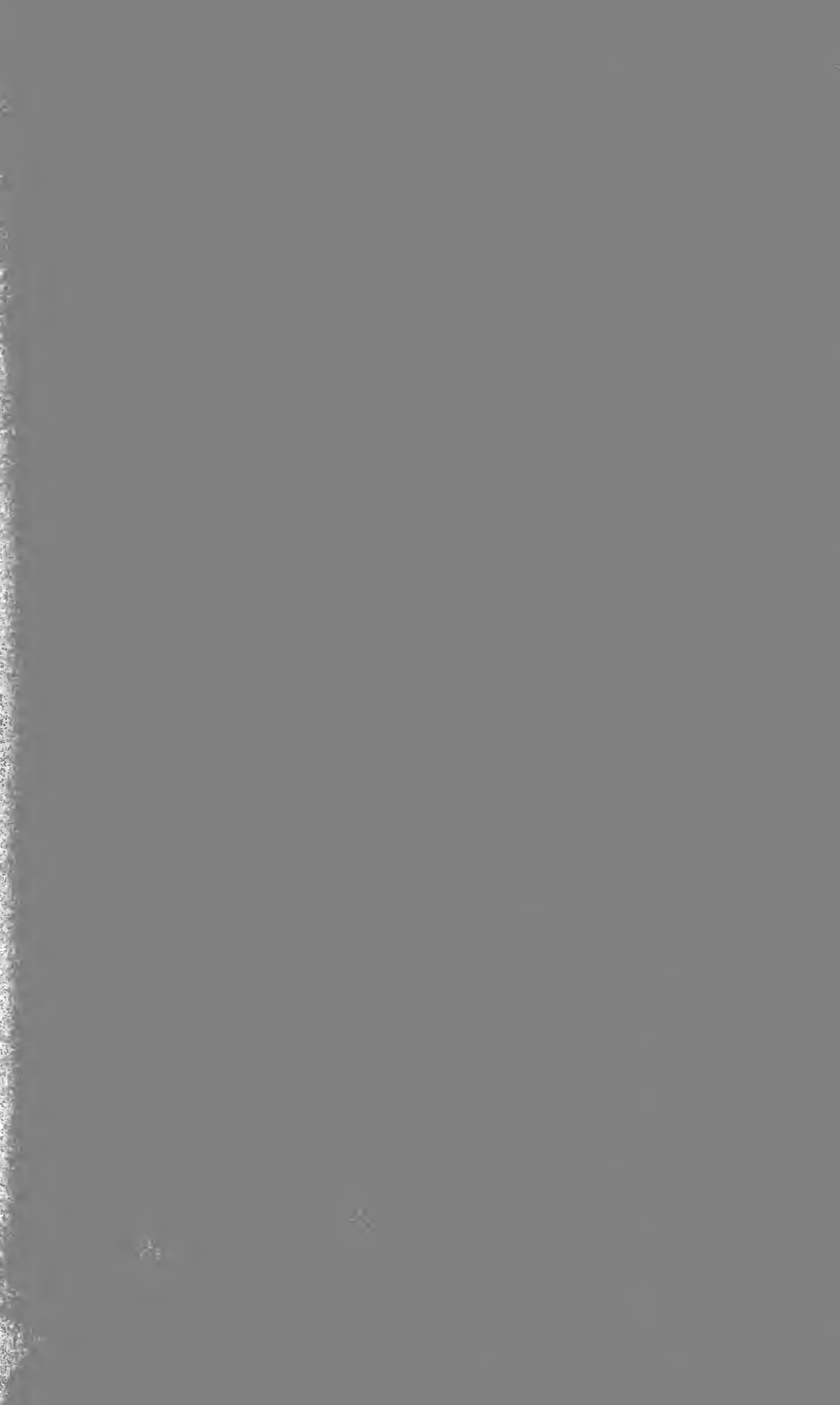
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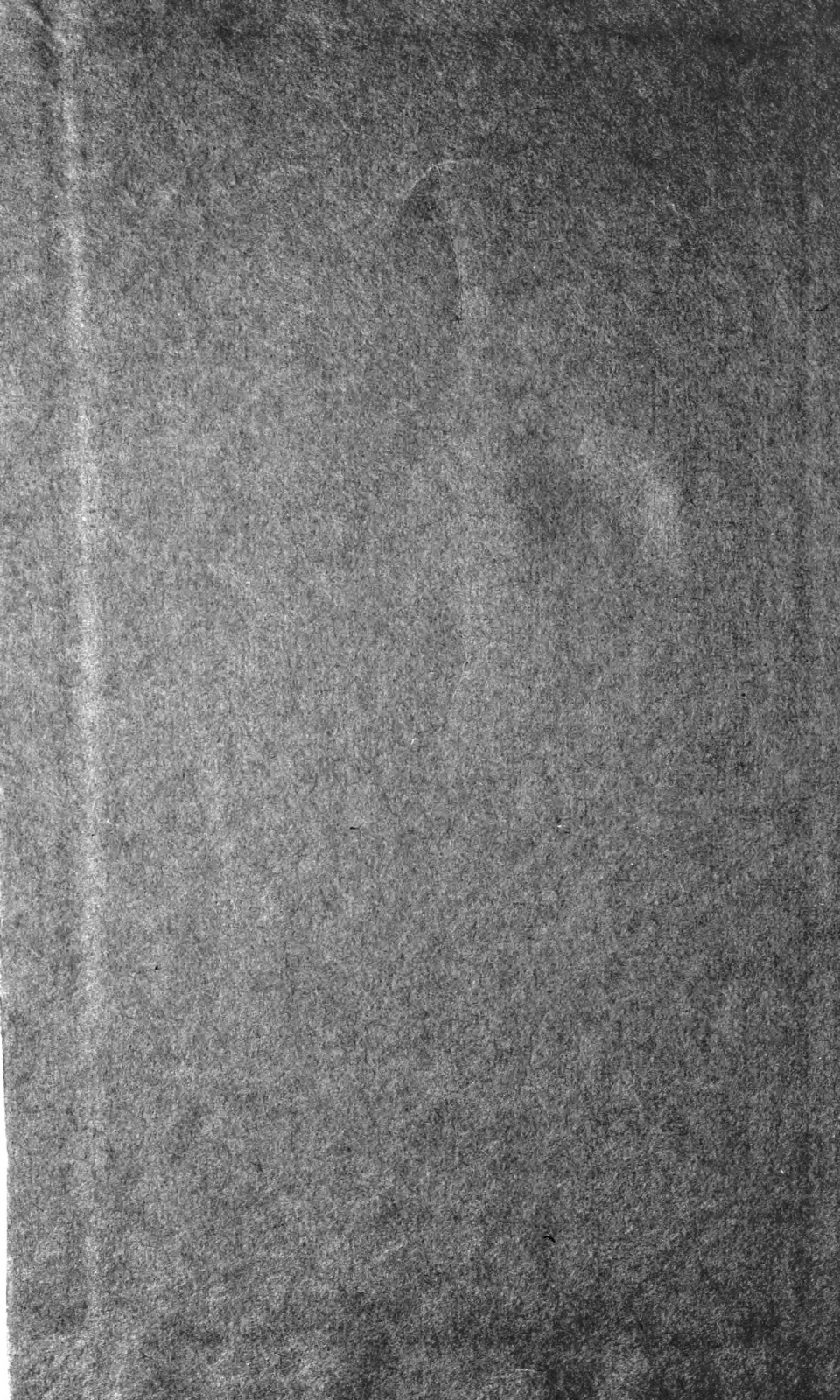
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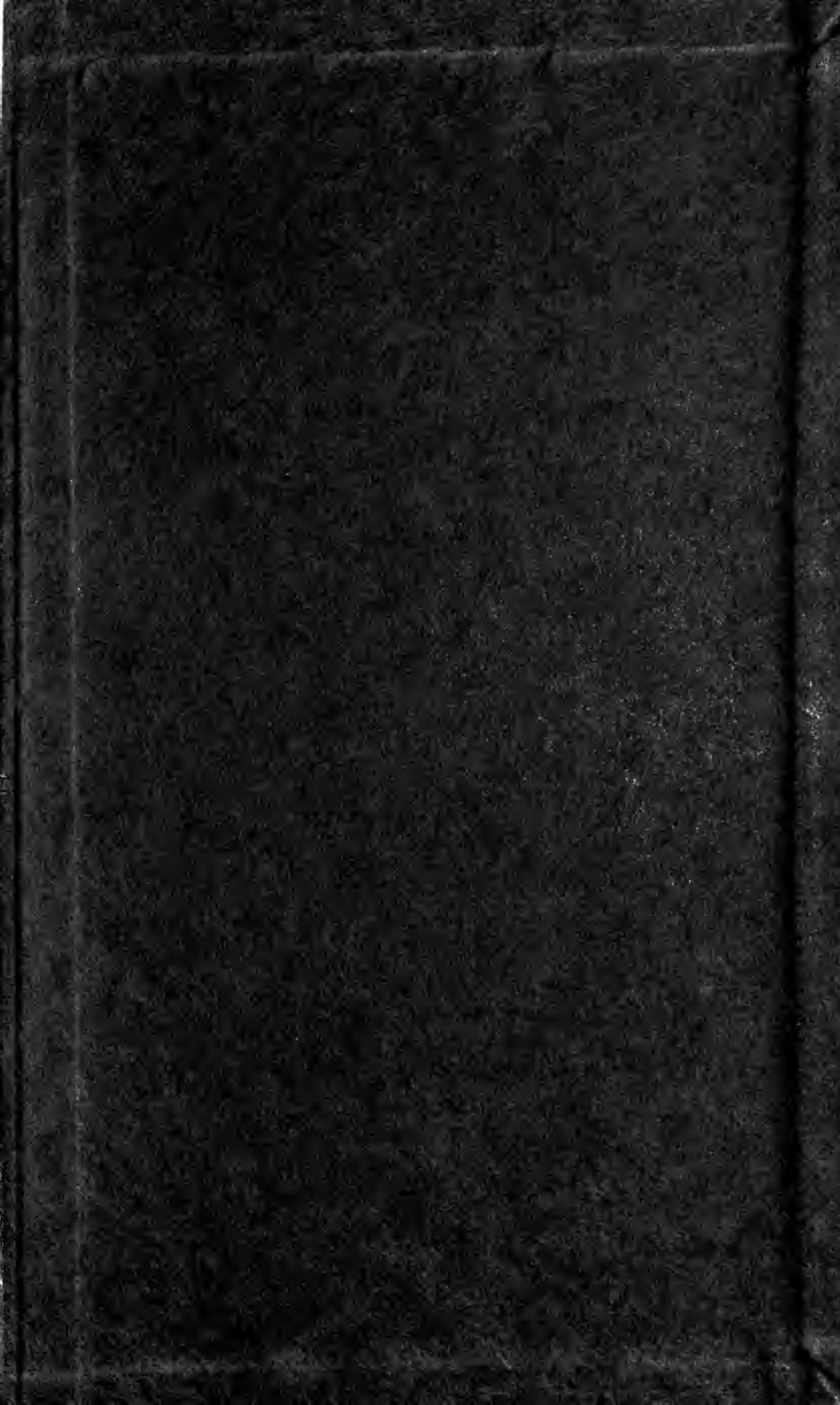
FRANK D. GARDNER, B.S., Assistant Agriculturist.

WILL A. POWERS, B.S., Assistant Chemist.

*Professor Morrow has resigned both the presidency of the Board of Direction and his position as agriculturist of the Station. Professor Burrill succeeds him as President of the Board of Direction after September 1st.







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